

IN THE CLAIMS:

Please amend claims 28-44, 47-49 and 52-56 as follows. Please cancel claims 45 and 46 without prejudice or disclaimer. Please add new claim 57 as follows.

1-27. (Cancelled)

28. (Currently Amended) A method, comprising:

estimating visibilities of a plurality of satellites based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, said plurality of satellites being satellites of a satellite positioning system, wherein obstructions in the vicinity of the estimated location of the mobile station are taken into account in estimating the visibilities of the plurality of satellites with respect to the mobile station;

selecting a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

sending, to the mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

29. (Currently Amended) ~~A~~The method as defined in claim 28, wherein said group of satellites contains a predetermined number of satellites.

30. (Currently Amended) ~~A~~The method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent in one location assistance message.

31. (Currently Amended) ~~A~~The method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent using a plurality of location assistance messages, each location assistance message of said plurality of location assistance messages containing information about one satellite of said satellite positioning system.

32. (Currently Amended) ~~A~~The method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent in response to receipt of a location assistance information request from the mobile station.

33. (Currently Amended) ~~A~~The method as defined in claim 28, wherein location assistance information relating to said group of satellites is sent periodically.

34. (Currently Amended) ~~A—~~The method as defined in claim 28, further comprising:

selecting a further group of satellites with the next best estimated visibilities with respect to the mobile station.

35. (Currently Amended) ~~A—~~The method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent to the mobile station before location assistance information relating to said further group of satellites.

36. (Currently Amended) ~~A—~~The method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent in a first location assistance message and location assistance information relating to said further group of satellites is sent in a second location assistance message.

37. (Currently Amended) ~~A—~~The method as defined in claim 34, wherein location assistance information is sent using a plurality of location assistance messages, each location assistance message of said plurality of location assistance messages containing information about one satellite of said satellite positioning system.

38. (Currently Amended) ~~A~~The method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent in response to receipt of a location assistance information request from the mobile station.

39. (Currently Amended) ~~A~~The method as defined in claim 38, wherein location assistance information relating to said further group of satellites is sent to the mobile station upon a request for location assistance information relating to said further group.

40. (Currently Amended) ~~A~~The method as defined in claim 34, wherein location assistance information relating to said group of satellites is sent periodically.

41. (Currently Amended) ~~A~~The method as defined in claim 40, wherein location assistance information relating to said further group of satellites is sent as often as location assistance information relating to said group of satellites.

42. (Currently Amended) ~~A~~The method as defined in claim 40, wherein location assistance information relating to said further group of satellites is sent less often than location assistance information relating to said group of satellites.

43. (Currently Amended) ~~A~~The method as defined in claim 34, wherein location information relating to said group of satellites and to said further group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

44. (Currently Amended) ~~A~~The method as defined in claim 28, wherein said group of satellites contains three or four satellites of the satellite positioning system.

45-46. (Cancelled)

47. (Currently Amended) ~~A~~The method as defined in claim 28, wherein said location assistance information is for a mobile-assisted location method.

48. (Currently Amended) ~~A~~The method as defined in claim 28, wherein said location assistance information is for a mobile-based location method.

49. (Currently Amended) An apparatus, comprising:
an estimator configured to estimate visibilities of a plurality of satellites based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, said satellites being satellites of a satellite positioning system, wherein the estimator is further configured to take into account obstructions in the vicinity of the

estimated location of the mobile station in estimating the visibilities of the plurality of satellites with respect to the mobile station;

a selector configured to select a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

a transmitter configured to transmit, to a mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

50. (Previously Presented) The apparatus as defined in claim 49, further comprising:

a receiver configured to receive location assistance information relating to satellites of said satellite positioning system.

51. (Previously Presented) The apparatus as defined in claim 49, wherein the network element is a location server.

52. (Currently Amended) A system, comprising:

~~receiving means for receiving~~a receiver configured to receive a satellite positioning system configured to obtain location assistance information relating to satellites of the satellite positioning system;

~~estimating means for estimating~~an estimator configured to estimate visibilities of a plurality of satellites of the satellite positioning system based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, wherein the estimator is further configured to take into account obstructions within the vicinity of the estimated location of the mobile station in estimating the visibilities of the plurality of satellites with respect to the mobile station;

~~selecting means for selecting~~a selector configured to select a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station;
and

~~sending means for sending~~a transmitter configured to transmit, to the mobile station, location assistance information relating to said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

53. (Currently Amended) ~~A~~The system as defined in claim 52, wherein said ~~estimating means for estimating~~estimator ~~visibilities of satellites with respect to the mobile station are~~is provided in a location server.

54. (Currently Amended) ~~A~~The system as defined in claim 52, wherein said ~~estimating means for estimating~~estimator ~~visibilities of satellites with respect to the mobile station are~~is provided in a number of network elements.

55. (Currently Amended) An apparatus, comprising:

a receiver configured to receive a satellite positioning system configured to obtain location assistance information relating to satellites of the satellite positioning system;

an estimator configured to estimate visibilities of a plurality of satellites of the satellite positioning system based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, wherein the estimator is further configured to take into account obstructions within the vicinity of the estimated location of the mobile station in estimating the visibilities of the plurality of satellites with respect to the mobile station;

a selector configured to select a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

a transmitter configured to transmit to the mobile station, location assistance information relating to said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

56. (Currently Amended) An apparatus, comprising:

estimating means for estimating visibilities of a plurality of satellites based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, said satellites being satellites of a satellite positioning system, wherein the

estimating means takes into account obstructions within the vicinity of the estimated location of the mobile station in estimating the visibilities of the plurality of satellites with respect to the mobile station;

selecting means for selecting a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

transmitting means for transmitting to a mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.

57. (New) A computer program embodied on a computer readable medium, the computer program being configured to control a processor to perform:

estimating visibilities of a plurality of satellites based on elevation angles of the plurality of satellites with respect to an estimated location of a mobile station, said plurality of satellites being satellites of a satellite positioning system, wherein obstructions in the vicinity of the estimated location of the mobile station are taken into account in estimating the visibilities of the plurality of satellites with respect to the mobile station;

selecting a group of said plurality of satellites with the best estimated visibilities with respect to the mobile station; and

sending, to the mobile station, location assistance information relating to at least said group of satellites, wherein the location assistance information relating to said group of satellites is sent in an order dependent on the estimated visibilities with respect to the mobile station.